REMARKS

Summary

Claims 1-2, 5-14, 16-20, and 22 stand in this application. Claims 3, 4, 15, and 21 have been canceled without prejudice. No new matter has been added. Favorable reconsideration and allowance of the standing claims are respectfully requested.

Although Applicant disagrees with the broad grounds of rejection set forth in the Office Action, Applicant has amended claims 1, 14, 16, and 20 in order to facilitate prosecution on the merits.

Claim 16 has been amended because of minor informalities. Claim 16 clarifies line 1, which states "The method of claim 15," and amends the claim to reference "The method of claim 14."

35 U.S.C. § 101

At page 2, paragraph 5 and page 3, paragraph 6 of the Office Action claims 20 and 22 have been rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the non-statutory subject matter rejection.

The statutory limit on patentable inventions is defined by 35 U.S.C. § 101 which recites "any process, machine, manufacture or composition of matter" as patentable subject matter. Unpatentable subject matters identified by the Supreme Court include "laws of nature, natural phenomena and abstract ideas." Diamond v. Diehr, 450 U.S. 175, 185 (1981). For claims including such excluded subject matter to be eligible for

patent protection, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187. A claimed invention is directed to a practical application of a 35 U.S.C. § 101 judicial exception when it: (A) "transforms" an article or physical object to a different state or thing; or (B) otherwise produces a useful, concrete and tangible result. MPEP § 2106 IV(C)(2).

Claims 20 and 22 represent statutory subject matter under 35 U.S.C. § 101. More particularly, the Office Action finds the term in claim 20, "apparatus comprising a protocol stack, comprising a MAC layer and a PHY layer" to be subject matter not limited to that which falls within a statutory category of invention because it is limited to a process, machine, manufacture, or a composition of matter. According to the Office Action, "The protocol stack, MAC and PHY layers are abstract concepts, thereby making the Applicants claimed apparatus 'an abstract apparatus,' which does not meet the criteria for statutory invention." Applicant respectfully disagrees.

To properly determine whether a claimed invention complies with the statutory invention requirements of 35 U.S.C. § 101, USPTO personnel must identify whether the claim falls within at least one of the four enumerated categories of patentable subject matter recited in § 101 (i.e., process, machine, manufacture, or composition of matter). MPEP 2106 § IV(B).

In the instant case, claims 20 and 22 represent machine ("apparatus") claims. Consequently, claims 20 and 22 fall within at least one of the four enumerated categories of patentable subject matter recited in § 101, and moreover, it is fairly clear within which of the enumerated categories a particular claim falls.

An apparatus is "an instrument that consists of parts or elements that are organized to cooperate when set in motion, to produce a definite, predetermined result." Claim 20 recites an apparatus having "a protocol stack comprising a PHY layer coupled to the MAC layer." The specification and drawings indicate that one embodiment of "a protocol stack" may include a "media access layer (MAC) layer 210 to perform tasks such as carrier sense multiple access/collision detection" and a "physical layer (PHY) 215 to encapsulate frames or packets into codewords for transmission over media 225 and may unencapsulate (or decapsulate) codewords that have been received via media 225 back into frames or packets" (see FIG. 2 and accompanying text at Specification, paragraphs [0020] and [0021] et seq.) Furthermore, claim 20 recites "a PHY layer coupled to the MAC layer, the PHY layer comprising an encapsulation, the encapsulation being adapted to encapsulate a variable length frame into at least one fixed length codeword comprising an integer number of bytes, wherein a first byte of the codeword is a synchronization byte, the synchronization byte comprises one of two synchronization byte values including a first synchronization byte value indicating that the codeword is an all data codeword, and a second synchronization byte value indicating that the codeword is not an all data codeword." Applicant respectfully submits that the protocol stack consists of PHY and MAC layers, when set in motion, produce a definite, predetermined result (encapsulate or carrier sense multiple access/collision detection). Consequently, claims 20 and 22 represent statutory subject matter for additional reasons as well.

35 U.S.C. § 103

At page 3, paragraph 8 of the Office Action claims 1-2, 12, 14-16, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Leatherbury et al. (US 2002/0136231) in view of Yang et al. (US 2004/0101046) and Snowden et al. (US 5,247,519).

At page 6, paragraph 9 of the Office Action claims 13, 17, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Leatherbury in view of Yang and Snowden as applied to claims 1 and 14 above, and further in view of Cheriton et al. (US 7,310,306).

At page 7, paragraph 10 of the Office Action claims 5-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Leatherbury in view of Yang and Snowden as applied to claims 1 and 14 above, and further in view of Davis et al. (US 5,754,764).

At page 9, paragraph 11 of the Office Action claims 9-11, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Leatherbury in view of Yang and Snowden as applied to claims 1 and 14 above, and further in view of Allison et al. (US 6,373,848). Applicant respectfully traverses the rejections, and requests reconsideration and withdrawal of the obviousness rejections.

Applicant has cancelled claim 3, and has incorporated their subject matter into claims 1 and 14. Therefore, the obviousness rejection with respect to claim 3 will be addressed below with respect to amended claim 1.

Applicant has also cancelled claim 21, and has incorporated their subject matter into claim 20. Therefore, the obviousness rejection with respect to claim 21 will be addressed below with respect to amended claim 20.

The Office Action has failed to meet its burden of establishing a prima facie case of obviousness. According to MPEP § 2143, three basic criteria must be met to establish a prima facie case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

As recited above, to form a *prima facie* case of obviousness under 35 U.S.C § 103(a) the cited references, when combined, must teach or suggest every element of the claim. *See* MPEP § 2143.03, for example. Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness because the cited references, taken alone or in combination, fail to teach or suggest every element recited in claims 1-2, 5-14, 16-20, and 22. Therefore claims 1-2, 5-14, 16-20, and 22 define over the cited references whether taken alone or in combination. For example, claim 1 has been amended to recite the following language, in relevant part:

> a start of new frame indicated within a codeword by a start-of-frame marker may be located anywhere within the codeword after the synchronization byte.

According to the Office Action, this language is disclosed by Leatherbury at Figure 5. Applicant respectfully disagrees.

Applicant submits that claim 1 defines over the Leatherbury reference. Figure 5 arguably discloses a synch marker that indicates the start of a new frame. Furthermore, Leatherbury, at Column 11, lines 17-27, in relevant part, states:

> The CCP header 503 includes "synch field" for storing a synchronization value, a control field 509 and a pointer offset field 511. The pointer offset field 511 identifies the beginning of the next PAP header in the current or subsequent CCP cell. The control field 507 further includes a synchronization identifier or mark referred to as a "sync mark" 513. As described further below, the data processing engine uses the synch mark 513 in the downstream transmission as a window synchronization signal to synchronize upstream communications.

Applicant respectfully submits that Leatherbury, at the given cite, arguably teaches a CCP header including a "synch field" for storing a synchronization value, a control field, and a pointer offset field. Applicant submits that this is clearly different from "a start-of-frame marker located anywhere within the codeword after the synchronization byte" as recited in claim 1.

Applicant respectfully submits that Leatherbury, arguably, does not describe a sync field that indicates a start-of-frame marker that can be located anywhere within the codeword as recited in claim 1. Rather, the synch field in Leatherbury is confined to only the CCP header, and therefore may not be located "anywhere within the codeword after the synchronization byte" as recited in claim 1. Moreover, Applicant respectfully submits that he has been unable to locate the above recited language of claim 1 in the teaching of Leatherbury, Yang, and Snowden.

According to the Office Action, Allison discloses the above-recited language in claim 18. Applicant respectfully disagrees. Allison at Column 9, lines 29-35

and lines 50-55, in relevant part, states:

> In the "IDLE" state the RxMAC is waiting for an indication that a frame is being received by the RxMII logic. When the RxMII logic starts to receive a frame it will assert SOF (start of frame). Detection of SOF by the RxMAC will produce a transition from the "IDLE" state to the "DATA" state. During this transition, the received data byte is written in the RxFIFO and the FIFO address is incremented.
>
> The "DATA" state also monitors the EOF (end of frame) signal. When EOF is asserted the end of the frame has been detected by the RxMII logic. The RxMAC state machine will transition back to the "IDLE" state and wait to receive the SOF for the next frame.

Applicant respectfully submits that Allison, at the given cite, arguably teaches asserting a start of frame signal after the RxMII logic starts to receive a frame. Applicant submits that this is clearly different from "a start-of-frame marker located anywhere within the codeword after the synchronization byte" as recited in claim 18.

Applicant respectfully submits that Allison does not describe a start-of-frame marker that can be located anywhere within the codeword as recited in claim 18. Consequently, a start of frame signal in Allison is asserted only after the RxMII logic starts to receive a frame, and is not located "anywhere within the codeword after the synchronization byte" as recited in claim 18. Moreover, Applicant respectfully submits that he has been unable to locate the above recited language of claim 18 in the teaching of Allison. Consequently, Allison fails to disclose all the elements or features of the claimed subject matter.

Applicant respectfully submits that he has been unable to locate at least the above recited language of claims 1 and 18 in the cited references, taken alone or in combination.

Consequently, the cited references, whether taken alone or in combination, fail to disclose, teach or suggest every element recited in claims 1 and 18. Furthermore, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. Accordingly, removal of the obviousness rejection with respect to claim 1 and 18 is respectfully requested. Claims 2, 5-13 and 19 also are non-obvious and patentable over the cited references, taken alone or in combination, at least on the basis of their dependency from claims 1 and 18. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

Claims 14 and 20 have been amended to recite features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claims 14 and 20 are not obvious and are patentable over the cited references, taken alone or in combination, for reasons analogous to those presented with respect to claim 1. Accordingly, Applicant respectfully requests removal of the obviousness rejection with respect to claims 14 and 20. Furthermore, Applicant respectfully requests withdrawal of the obviousness rejection with respect to claims 16, 17, and 22 that depend from claims 14 and 20 respectively, and therefore contain additional features that further distinguish these claims from the cited references.

Conclusion

For at least the above reasons, Applicant submits that claims 1-2, 5-14, 16-20, and 22 recite novel features not shown by the cited references. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized

by the cited references. Accordingly, Applicant submits that the claims are not anticipated nor rendered obvious in view of the cited references.

Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above. Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

It is believed that claims 1-2, 5-14, 16-20, and 22 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is invited to contact the undersigned at 724-933-9338 to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account 50-4238.

Respectfully submitted,

KACVINSKY LLC

/John F. Kacvinsky/

John F. Kacvinsky, Reg. No. 40,040
Under 37 CFR 1.34(a)

Dated: July 11, 2008

KACVINSKY LLC
C/O Intellevate
P.O. Box 52050
Minneapolis, MN 55402
(724) 933-5529